

AMENDMENTS TO THE CLAIMS

Please amend claims 3-5, 7-9, 11, 12, 14-17; cancel claims 1, 2, 6, 10, and 13; and add new claims 19-22. The following listing of claims will replace all prior versions and listings of claims in this application.

Listing of Claims

- 1.-2. (canceled)
3. (currently amended) The apparatus according to claim ~~[[1]]~~ 5, wherein said ~~N-dimensional~~ three-dimensional lookup table arithmetic processing section outputs three output signals in correspondence with three input signals.
4. (currently amended) The apparatus according to claim ~~[[1]]~~ 5, wherein said ~~N-dimensional~~ three-dimensional lookup table arithmetic processing section includes a three-dimensional lookup table formed from L X M X N (L, M, and N are arbitrary integers) lattice points and calculates data among the lattice points by interpolation arithmetic processing.
5. (currently amended) An mage sensing apparatus which has an image sensing element, ~~[[and]]~~ an A/D conversion section which A/D-converts an output from the image sensing element, ~~causes an image processing section to execute image processing to convert digital image data obtained from the A/D conversion section into output image data, and records the output image data in a recording medium~~ an image processing section which processes digital image data obtained from the A/D conversion section, a conversion section which converts the digital image data into output image data by image-processing

in the image processing section, and recording section which records the output image data to a recording medium, wherein

said image processing section comprises a white balance processing section which executes a white balance processing in the digital image data by using white balance coefficients, a matrix arithmetic processing section which executes a matrix arithmetic processing by changing a coefficient in accordance with a color temperature of a light source, and ~~an N-dimensional~~ a three-dimensional lookup table arithmetic processing section ~~where N is an integer not less than 3 and causes said matrix arithmetic processing section to process the digital image data before said N-dimensional lookup table arithmetic processing section~~ which perform a color conversion of a specific color by using a parameter according to a lattice point of three colors, and wherein
the image processing section performs a white balance processing, a matrix arithmetic processing, and three dimensional lookup table arithmetic processing in the order named.

6. (canceled)

7. (currently amended) The apparatus according to claim ~~[[6]]~~ 5, wherein

the apparatus further comprises an interpolation processing section which interpolates the output from the image sensing element having a color filter comprising a plurality of colors, and
said interpolation processing section is arranged before said ~~N-dimensional~~ three-dimensional lookup table arithmetic processing section.

8. (currently amended) The apparatus according to claim ~~[[1]]~~ 5, wherein said ~~N-~~
~~dimensional~~ three-dimensional lookup table arithmetic processing section stores a
chrominance signal which considers a memory color of an input chrominance signal.
9. (currently amended) An image ~~sensing~~ signal processing method which comprises a
~~sensing an image of an object with an image sensing element, and an A/D converting an~~
~~output from the image sensing step, and executes image processing in an image~~
~~processing step to convert digital image data obtained in the A/D conversion processing~~
~~into output image data~~ image processing step of A/D converting an output signal of an
image sensor, which senses an image of an object, into a digital data and converting the
digital data into an output image data, wherein

the image processing step comprises ~~a matrix arithmetic processing step and an N-~~
~~dimensional (N is a positive integer) lookup table arithmetic processing step and~~
~~processes the digital image data in the matrix arithmetic processing step before~~
~~the N-dimensional lookup table arithmetic processing step~~ a white balance
processing step of executing a white balance processing to the digital image data
by using white balance coefficients, a matrix arithmetic processing step of
executing matrix arithmetic processing by changing a coefficient in accordance
with a color temperature of a light source, and three-dimensional lookup table
arithmetic processing step of performing a color conversion of a specific color by
using a parameter according to a lattice point of three colors, and wherein

the image processing step performs a white balance processing, a matrix arithmetic
processing, and three dimensional lookup table arithmetic processing in the order
named, thereby performs the color conversion according to a color adaptability
based on the color temperature in the white balance processing and the matrix

arithmetic processing before the three-dimensional lookup table arithmetic processing, subsequently performs a color conversion of a specific color in the three-dimensional lookup table arithmetic step.

10. (canceled)
11. (currently amended) The method according to claim 9, wherein in the ~~N-dimensional~~ three-dimensional lookup table arithmetic processing step, ~~[[N]]~~ three output signals are output in correspondence with ~~[[N]]~~ three input signals.
12. (currently amended) The method according to claim 9, wherein
the image processing step further comprises a white balance processing step, and
the digital image data is processed in the white balance processing step before the ~~N-dimensional~~ three-dimensional lookup table arithmetic processing step.
13. (canceled)
14. (currently amended) The method according to claim 9, wherein
the method further comprises an interpolation processing step of interpolating the
output from the image sensing element having a color filter comprising a plurality
of colors, and
the interpolation processing step executes processing before the ~~N-dimensional~~ three-dimensional lookup table arithmetic processing step.
15. (currently amended) The method according to claim 9, wherein in the ~~N-dimensional~~ three-dimensional lookup table arithmetic processing step, an input chrominance signal is

converted into a chrominance signal which considers a memory color of the input chrominance signal.

16. (currently amended) The method according to claim 9, wherein in the ~~N-dimensional~~ three-dimensional lookup table arithmetic processing step, a three-dimensional lookup table formed from L X M X N (L, M, and N are arbitrary integers) lattice points is included, data among the lattice points is calculated by interpolation arithmetic processing.
17. (currently amended) A program causing a computer to execute an image ~~sensing~~ signal processing method of claim 9.
18. (original) A computer-readable storage medium storing a program of claim 17.
19. (new) The apparatus according to claim 5, further comprising a gamma processing section, wherein
said gamma processing section is arranged between said matrix arithmetic processing section and said three-dimensional lookup table arithmetic processing section.
20. (new) The apparatus according to claim 5, further comprising an interpolation processing section which interpolates an output signal from said image sensing element in front of which a color filter having a plurality of colors is arranged, wherein
said interpolation processing section is arranged before said three-dimensional lookup table arithmetic processing section.

21. (new) The method according to claim 9, further comprising a gamma processing step in which a gamma processing is performed by degrading a bit number of the image signal, wherein

said gamma processing step is performed between said matrix arithmetic processing step and said three-dimensional lookup table arithmetic processing step.

22. (new) The method according to claim 9, further comprising an interpolation processing step in which an output signal from said image sensing element, in front of which a color filter having a plurality of colors is arranged, is interpolated, wherein

said interpolation processing step is performed before said three-dimensional lookup table arithmetic processing step.